Claims

1. A color management system for converting computer graphics images to film images, the computer graphics images being displayed on and manipulated using a computer monitor, the film images being recorded on film using a digital film recorder for exposing the film with light at predetermined intensity levels corresponding to specified RGB values, comprising the steps of:

determining a first RGB-to-XYZ mapping applicable to the monitor, said first RGB-to-XYZ mapping using color spaces incorporating chromaticity and intensity data for each color component;

measuring a second RGB-to-XYZ mapping applicable to the film recording, said second RGB-to-XYZ mapping using color spaces incorporating chromaticity and intensity data for each color component; and

creating an RGB-to-RGB mapping, incorporating chromaticity and intensity data for each color component, for operating on the image colors displayed on the monitor to create accurate color densities on the film.

2. A method for converting computer graphics images displayed on a monitor to film images, comprising the steps of:

determining an RGB-to-XYZ mapping incorporating chromaticity and intensity data for the monitor;

determining an RGB-to-XYZ mapping incorporating chromaticity and intensity data for a film recording; and

generating an RGB-to-RGB mapping, incorporating chromaticity and intensity

8   data for at least one color component, for converting the image colors displayed on the

9   monitor to color densities on the film.

1   3.   The method of Claim 2, wherein the RGB-to-XYZ mapping for the monitor

2   incorporates chromaticity and intensity data for each color component.

1   4.   The method of Claim 2, wherein the RGB-to-XYZ mapping for the film

2   recording incorporates chromaticity and intensity data for each color component.

1   5.   The method of Claim 2, wherein the RGB-to-RGB mapping incorporates

2   chromaticity and intensity data for each color component.

1   6.   A color management system for converting computer graphics images to film

2   images, the computer graphics images being displayed on and manipulated using a

3   computer monitor, the film images being recorded on film using a digital film recorder

4   for exposing the film with light at predetermined intensity levels corresponding to

5   specified RGB values, comprising:

6   a first RGB-to-XYZ mapping applicable to the monitor, said first RGB-to-XYZ

7   mapping using color spaces incorporating chromaticity and intensity data for each color

8   component;

9   a second RGB-to-XYZ mapping applicable to the film recording, said second

10   RGB-to-XYZ mapping using color spaces incorporating chromaticity and intensity data

11   for each color component; and

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12   an RGB-to-RGB mapping, incorporating chromaticity and intensity data for each

13   color component, for operating on the image colors displayed on the monitor to create

14   accurate color densities on the film.

1   7. A color management system for converting color computer graphics images to

2   color film images, comprising:

3   a computer system having a monitor for displaying the computer graphics images;

4   an RGB-to-XYZ mapping, incorporating chromaticity and intensity data, for the

5   monitor;

6   an RGB-to-XYZ mapping, incorporating chromaticity and intensity data,

7   applicable to recording the film images;

8   an RGB-to-RGB mapping, incorporating chromaticity and intensity data, for

9   operating on the images displayed on the monitor to create color components for

10   recording the film images

1   8. The system of Claim 7, wherein the computer system comprises a work

2   station.

1   9. The computer system of Claim 7, further comprising a digital film recorder for

2   exposing film with the film images using light at predetermined intensity levels

3   corresponding to specified RGB values.

1   10. The computer system of Claim 7, wherein the RGB-to-XYZ mapping for the

2   monitor incorporates chromaticity and intensity data for each color component.

1   11.   The computer system of Claim 7, herein the RGB-to-XYZ mapping for

2   recording the film images incorporates chromaticity and intensity data for each color

3   component.

1   12.   The computer system of Claim 7, wherein the RGB-to-RGB mapping

2   incorporates chromaticity and intensity data for each color component.